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Contributed Articles.

On Important Apian Subjects.

No. 8.—Packages for Extracted Honey.

BY CHAS. DADANT.

BARRELS.—This is the largest package which is used for honey. We have used barrels for 25 years, to keep our crop in bulk. We do not know of a single instance, however, where honey was retailed out from the barrel. But we find these very convenient when the honey is just harvested, as they can be handled readily, and are inexpensive. We use alcohol barrels altogether, which can be bought second-hand from any druggist. The alcohol barrels are gummed inside with a sort of glue to keep the alcohol from evaporating, and this glue is useful in keeping the honey from soaking into the wood or leaking.

The barrels should be kept in a dry place when not in use. A cellar will not do, for the wood may swell, and if the barrel should happen to be exposed to heat and drouth later on, the shrinkage of the wood will cause leaks. We keep our empty barrels in the barn, and tighten the hoops on just before filling them with honey. In this way we never have leaky honey-barrels. If the honey is removed before it is granulated, no trouble will be experienced. When the honey granulates in the barrel, it is necessary to remove one head to take it out. This may be done in such a way that the head is replaced after the honey is removed, and the barrel is as good as before. But it is absolutely essential that the head should be put back in the same position as at first. To do this, we mark the head and the chime in corresponding places, and hold the head with a strong gimlet screwed in the center, while taking it out.

LARGE TIN CANS.—These receptacles, made of the size of an extractor can, are used by numerous bee-keepers to keep their crop of extracted honey. One of the advantages claimed for these cans is, that they allow the honey to ripen after it is harvested if the cans are kept in a warm place. As we said before, we do not follow the method of artificial ripening of honey, and therefore this advantage of the cans is of no use to us. But the cans have some disadvantages. They are expensive, not easily transported, and will rust easily. We find that a barrel will outlast a can of the same capacity. As much of our honey is extracted from out-apiaries, away from home, and has to be hauled in promptly, the can is out of the question. Besides, barrels may be rolled into any house, or shop, or even into barn, without danger from dust, mice, or prying fingers. We had once a crop of 85 barrels of clover honey. We had not a building large enough to house the crop except

our barn. Into the barn it went, and remained until winter. Cans would have been out of the question.

Another difficulty with the large cans, is to remove the honey after it is granulated. We have often had honey so hard that it took a spade to dig it out. But a spade will cut the sides of a can while it is harmless in a barrel.

THE 60-POUND CANS.—We now come to a package which is nearer to the retailing package than those already mentioned. The 60-pound can owes its reputation to the fact that a great many grocers are willing to buy it and retail the honey out. This package is also within the limits of the purse of well-to-do consumers. For this reason, we think it is quite likely that this package will come more into favor every day.

THE LARD-PAILS.—These pails, the flaring lard-pails—which our old Friend Root has decorated with the name of "The Improved Dadant Pail"—are a good package, and one of the advantages of this style is that they can be shipped, when empty, in a rather comparatively small compass, owing to their "nesting" inside one another. We have for 20 years, or more, retailed the greater part of our honey crop in pails very similar to these, and which we use yet. We handle four sizes, weighing, when full, 10 pounds, 5, 2½, and also a small can holding only 1¼ pounds. These are usually weighed gross, honey and all, and the weight of the pail helps to pay for its cost. It is with this package that we can reach the masses—the consumers who are unable to spend much for delicacies, and who want their money's worth of what they buy. When honey sells at wholesale for 7 cents per pound, the bee-keeper may put up his honey in tins and furnish it to his customers in small-sized packages for less than 10 cents per pound. This is the best way to get rid of a large crop of honey. Too many of our bee-keepers sell their honey on the large markets, and glut these markets, for the want of a little forethought and a little painstaking to supply their own home market. When honey is put up in attractive shape, thousands of pounds find their way into the consumers' hands directly from the producers' home.

We never put up our honey in cans directly while extracting, but transfer it to the cans from the barrels, as occasion requires. It takes a little more time, but the honey is more clear, having had time to get rid of the impurities which may be taken out with the last gallon of liquid honey drawn, or may be scraped from the surface of the honey when the barrelful is granulated.

GLASS JARS.—These are also much in vogue for the retailing of extracted honey, and some of the largest dealers in honey, Messrs. Muth & Son, of Cincinnati, use this sort of package extensively. We have never liked this package, owing to the danger of breakage, the expense and weight of

the glass. Besides, when the honey granulates, it does not look well in glass.

Our advice to those bee-keepers who wish to try the home market is this: Put up your honey partly in the 60-pound cans, and partly in barrels, and fill it into tin cans of different sizes as occasion requires.

To those who wish to handle the honey but once, and sell it in a lump on the large markets, we will give the advice of putting it all up in the regular 60-pound can. But let every one remember that a good market for honey, and a good paying price for the honey, cannot be secured unless one works for it.
Hamilton, Ill.

[This is the last of the interesting and practical series of articles on "Extracted Honey" begun by Mr. Dadant in the first number of the American Bee Journal for 1895. In future numbers, there will be published more from the same source, though probably on other equally important subjects relating to bee-culture.—EDITOR.]



Brine Method of Caring for Empty Combs.

BY J. A. GOLDEN.

Every once in awhile the question is asked, "How shall we keep the moth-worms out of combs?" and the answer in general is, "Fume with sulphur," which is always a very unpleasant task. Therefore, Mr. Editor, I wish to give the bee-keepers my method of preserving combs, for all persons that have ever had brood-combs to take care of know that it requires vigilance in the strictest sense, to be successful, and then one finds he has combs that must go into the wax-extractor; besides, it always ruffles my temper to have a nice brood-comb mutilated by the pesky moth-worm, more than any other mishap in bee-keeping.

Having had entire success in curing bee-paralysis, of the most malignant type, and every case treated has remained permanently cured up to this time, not even one bee has ever shown the least symptom of the malady; although some of our great, good, and wise bee-keepers have honestly differed from me in their opinions, after testing the remedy, from the fact that they did not succeed in curing the malady; while I believe all admitted that their bees did not die off nearly so fast as previous to treatment, at the same time there are many who have proved the salt remedy efficacious, so far as I have been able to hear from—so I use the same remedy for moth-worms.

Having accumulated a good many beautiful combs, from one year to another, and it worried my patience to find every once in awhile a mutilated comb, caused by the moth-worms, I sorted out 40 beautiful, unsoiled combs, and the balance I rendered into wax. I made a strong salt-brine, and fully saturated the 40 combs with the brine; this was done over two years ago, and there has never been any trouble from the moth-worm since. If the treatment proves effectual against the ravages of the moth-worm, bee-keepers ought to know it.

My plan of treatment here at the house-apiary is as follows (and after treating three or four combs one can treat them quite speedily and effectually, remembering that a thorough test is always the surest road to success in any problem in life—anything short of this causes disputes, contention and unpleasant sayings, and a failure in the end):

Make, say one quart of brine, putting in all the salt the water will dissolve. Take an empty brood-frame, cover one side with wire-screen, by tacking it on with small tacks. Spread on a table an oilcloth, take a brood-comb, lay it on the table, and pour the cells, on one side, full of brine (I use a gum sprinkler). Then lay on top the frame with wire-screen. Lay on the table another brood-comb, lift up the comb full of brine and turn over and hold it over the empty comb, and

give the frame a quick upward jerk, and the brine will quickly pass into the cells of the empty comb. Drop the screen-frame on the comb just filled, and lay the comb just emptied down on the table, the other side up; pick up the one now with the screen on top, turn it over the one just emptied, and with a quick upward motion you will complete the comb. Thus you continue the work, refilling and emptying until all are treated. The brine should be quite warm, and will adhere to the cells better.

The wire-screen prevents the combs from breaking when throwing the brine out with the sudden upward motion or jerk. When the combs are dry, they will look frosty; thus they can be laid away, and, when wanted for use, give them a good rinsing in a boiler of tepid, clean water, when purer combs cannot be given to the bees. This is the experience of the writer.
Reinersville, Ohio.



What Dr. Miller Thinks.

THE SWARMING HABIT.—Bert Lowmes, on page 549, makes a strong argument against the possibility and desirability of breeding out the swarming habit. He says the desire to swarm "has existed ever since the bees were created, and I can truthfully say, will exist until they become extinct." That settles it that there is no possibility of getting rid of swarming, except for one fatal defect, that no proof of the truth of that statement accompanies it. Even supposing he proves that bees have always swarmed, he would need to prove that they will swarm, and always have swarmed when not at all crowded, etc.

As to the desirability of getting rid of the habit, he is not so positive. He only *thinks* that no drones would be reared if there were no swarming. But others may *think* they would be reared if swarming were forever to cease, so the matter of desirability stands just as it did before.

There is some encouragement in knowing that Mr. Lowmes has faith that it is both possible and desirable to prevent swarming. I confess that my faith in that direction is not as strong as it once was—that, is, my faith in its possibility—and if he will give us some practical way for the prevention of swarms, I'll not quarrel with his views as to the swarming habit.

THE KINGBIRD.—It's very kind in Bro. Ford, on page 553, to comfort us with the thought that the kingbird confers a benefit by killing off the unnecessary population of our hives, but the thought will not down that we might discriminate more wisely if the destruction were left to us instead of the kingbird.

AN APOLOGY.—I hereby apologize to Bro. Abbott for hinting at the possibility of his making a mistake. And now, Bro. Abbott, please refer me to the page in Gleanings from which you quoted "Sweet clover is a sort of weed," that I may take that editor of Gleanings in hand. Just a postal.

RIPENED HONEY.—So important is the matter that I make no excuse for again referring to the words of Mr. Pringle, quoted on page 555, on which Mr. Abbott has so forcibly and wisely commented. I think it is true that the average sample of extracted honey on the market is not as good as the average sample of comb honey, and I further think it could be and ought to be better. For comb honey must be snow-white to bring the highest price, and if taken while the comb is snow-white, the contents of the comb will not be as rich and good as if left longer on the hive. This richer and better honey we can have with the extractor, and if every bee-keeper took pains to put none but such honey on the market, I don't believe there could be the same difference in the price of extracted and comb that now exists. People are willing to pay

more for comb honey because it looks better, but they also pay more for comb honey because in general it is better.

THE CHICAGO CONVENTION, according to an item on page 556, is to be during the week of the Fat Stock Show; but the same mail that brought that notice brought the Chicago Record, saying there would be no Fat Stock Show on account of the collapse of the Coliseum. Now, what's going to be done? The convention should be only at such times as give low railroad rates.

A MODEL APIARY.—According to that article on page 557, the main thing in a model apiary is to have such arrangements as will not allow swarms to cluster out of easy reach. Why not secure that by having all queens clipped? One advantage is, that you can clip your queens without waiting, but you can't get trees to your mind without much waiting.

With regard to evergreens, my experience does not agree with that of the writer. A number of evergreens are about my house, but no swarm in all the years has ever lit on one. Fruit-trees are, however, nearer to the apiary. But I had for several years an out-apiary in a beautiful grove of evergreens, and I never knew a swarm to alight on one of them. By preference they took a small deciduous bush farther away. But it is also true that I never saw many swarms there.

BEE-SWARMING HOURS.—The difference of observation mentioned on page 558, may be very simply accounted for by the fact that B. Taylor has not only had a long experience, but an experience with a large number of colonies. The longer his experience, and the greater number of colonies kept, the more exceptional cases, and the more exceptional some of the cases. I've had swarms as early as Mr. Taylor, but I'm not sure I ever had any as late.

THAT CONSTITUTION.—Eugene Secor, on page 563, complains that the North American is so overloaded with a constitution that it's in trouble, and thinks the constitution should be short and simple. I'm afraid the executive committee have failed to carry out Section 2, of Article IV, of the Constitution, or he would hardly talk that way. But I suspect, Bro. Secor, that you have forgotten that some of the "overloading" was unloaded at St. Joe. Just turn to page 578, and tell us what there is in the constitution that should be shorter or simpler. And if you find it all right, just send a boy with a typewritten apology to my house. Marengo, Ill.



Cause and Prevention of Smothering Bees by the Bee-Escape.

BY WM. MUTH-RASMUSSEN.

I have just read Mr. Demaree's article on page 502, about smothering bees by the bee-escape. Having had the same experience a few times, I will give the true cause, as I have found it in my case, and also the prevention of this disaster to the bees left in the super, after the escape had been put on the hive.

Lack of ventilation is, of course, the cause, but not the first cause. It is the result of the first cause.

I use wide frames in the super, and a honey-board between super and brood-chamber. When the honey-flow is good, and the sections are left in the super until they are fully finished, the bees will often build burr-combs between the honey-board and the wide frames, filling these burr-combs more or less with honey. When the super is raised, to place the escape-board underneath, these burr-combs are broken. Now, if any of them happen to be directly over the entrance to the bee-escape, or under the exit, the bees cannot go through. If only the exit is stopped by burr-combs, the bees will crowd into the escape from above, jamming each other

until those already in the trap are smothered to death, when they soon swell and effectually stop all ventilation from below. This, of course, causes the smothering of all the other bees in the super.

Now for the prevention: When I put on escapes, I always carry with me a box-scraper and a tin pail. After loosening the super from the honey-board, by inserting a strong butcher-knife between them, I raise the right-hand side of the super and peep underneath. If I see any burr-combs likely to interfere with the exit of the bees, I take the scraper, and with a few quick strokes remove the burr-combs directly over and under the trap in the escape-board, as it will be when it is in position. My assistant has in the meantime kept the bees back with the smoker. After dropping the scraper into the tin pail, I raise the super with both hands, while he puts the escape-board in place, and I then let the super down. The whole is only a moment's work, and since I have practiced this, I have never lost any bees by smothering in the super.

Independence, Calif.



Migratory Bee-Keeping in Michigan.

BY J. A. PEARCE.

On page 461, it says a migratory bee-keeper from Kalamazoo had gone to Frankfort, Mich. Now, I wish to make a little correction. I am not from Kalamazoo, but from Grand Rapids, and I am identified with her interests. I do not know why any one should say I was from Kalamazoo, unless he must have thought I had escaped from our splendid asylum located there, as you naturally suppose that any one who would move right off into the wilderness of the north, with a carload of bees, without saying anything about it, must be a little "rattled." Even the engineer of the switch-engine that placed my car to be unloaded, thought I was a little "off," I guess, for he asked me if I was going to let those bees loose in the woods; and if I thought I would ever find them again! I told him I thought I would have no difficulty, as I had a little horn that I could blow, and as soon as the bees heard it they would all come flying to me! "Well," he replied, "that is a wonder!"

Now the facts about this business are about like this: The conditions we have had at my home have well-nigh paralyzed the honey-business there. Last year I had 80 good colonies in the spring, and in the fall I had 80, and about 300 pounds of honey. And last spring in looking over the field, I could not see anything encouraging, and already a drouth had set in that bid fair to be what it has been—the worst that the south half of the State ever saw. So I came in and told my wife that, although I was of a hopeful turn of mind, I could see nothing that the bees could get to live upon, and we should have to go to a good deal of expense to barely hold them where they were, if they then did not "go up," and next year must be even worse than this; and if she thought she could care for the chickens, and the man for the raspberries, if there were any, I would pack my bees and start for Benzie county with them. She did not quite favor the proposition, but owing to the condition of things she yielded.

So one morning I commenced to put the screens on the hives, and before the next morning I was well on my way towards Frankfort-on-the-Lake. There were two large loads of fixtures, and two loads of bees—76 colonies. We hauled them 5 miles, took the fixtures in the afternoon, and as soon as the bees would go in (and that was not very early) we shut them in and started. It was nearly midnight when I kissed my loving wife, caught up my grip that she had carefully packed, and took my departure from our lovely home in the hills, surrounded with its 40 acres of nearly all kinds of fruit. It was with some misgivings that I went, myself. It was no Sunday-school picnic, and if any one should attempt to follow

me in this, I wish to say it is not an easy thing to make your arrangements and get ready a carload of bees in so short a time, and only a strong conviction of duty prompted me to do it.

I wish to say right here that my car was attached to the passenger train, and very nicely handled, and the moving was quite a success. I lost only a part of two very heavy colonies that completely choked the screen that was all over the top of the hives.

As to how much honey I shall get, I am unable to say, but I am getting some, and the bees are in the finest condition I ever had them. I shall put them up to about 100 colonies, besides selling enough to pay for bringing them here, and have the honey I get to help cheer my wife next winter, for so valiantly taking care of the chicks and fruits while I am away.

It was my intention to take the bees home again on the ceasing of the honey-flow, but my mind is changed, and I shall pack them here.

You naturally ask what they get to feed on here. Well, there are the usual spring things, and some fruit-bloom, as this is going to be the best fruit county in the State; then comes red raspberry, and I want to say that it is yielding yet, as some pickers told me yesterday that the bees were just swarming on it up in the woods, and I also have seen for myself. Then comes white clover, and the latter part of June commences that wonder of a honey-plant—the Epilobium, that this morning they seemed to be working on as hard as ever. It lasts well up till frost, then when it is at its best basswood comes, and for reasons I have not time to explain here, it lasts nearly a month—it is going a little yet. The golden-rod is just opening—there are miles of it; and sandwiched in with these are catnip, milkweed, thistles, buckwheat, etc. In short, it is wild feed instead of tame that we depend upon. And we have had rains, and it is raining while I write this little description of my migratory bee-keeping to set myself right before the bee-fraternity.

Frankfort, Mich., July 30.



Starting an Apiary in Calif.—Keeping Combs.

BY DR. E. GALLUP.

Many eastern correspondents ask me about starting an apiary in California. In the first place, you want to select the locality, and in many cases it costs considerable labor to make your road, but in other localities the labor would be but a trifle. You can purchase your bees in movable-comb hives for from \$1.50 to \$1.75 per colony; or, if you take one season, you can gather up your colonies for a trifle, or get a small start, and then make your bees, as the climate is such that one can increase very rapidly in the valleys, as you have from the middle of March to the middle of October to do it in—seven months.

In the mountains, or foot-hills, you want an extracting-house. Some use a cloth tent at first, but a house of rough lumber and redwood "shakes" can be built very cheaply, and one can live in the cheapest kind of a house, or can live in a canvas tent the entire year, as many have done until they get a start.

Of course you want an extractor, also a sun wax-extractor to melt the cappings, pieces of combs, old combs, etc. Then you want to preserve all spare combs from the moths. To start with, you can dig a square hole in the ground large enough to hold the supers with the surplus combs—not in the hole, but over it. Place some scantlings over the hole, and pile up the supers containing the combs, side by side, and six or eight supers high; put covers on top, and over the whole place a canvas to keep in the smoke. Bank up tight all around the bottom supers. Dig a small trench 3 or 4 feet long

out from this square hole, and cover with a strip of old tin or sheet-iron. This trench is to put the burning sulphur in. Melt the sulphur in some old kettle, and when melted saturate old cotton-rags with the melted sulphur, and when cool keep a lot on hand ready for use at any time. Then all you have to do is to set fire to some of those sulphured rags, and place them in the trench, and cover it up, and it is a very short job to fumigate the combs as often as required. It is poor policy to allow the moths to destroy combs.

Now I have told you how a poor man with little means can start an apiary. If one has the means, he can build a small, tight fumigating-house to hang the combs in, and then he has it on hand at all times. When we have good seasons right along in succession, the bees take care of their own combs, but when we have a season like the season of 1894, and lots of our bees die, or we have spare combs that we do not use for any cause, then it pays to preserve them, as with the ready-made combs one can, if he knows how, build up his apiary in short order, and have the bees on hand and ready for storing by the time the harvest commences in this glorious climate.

If bees are cared for as they should be, there need be but very little loss. Understand, we do not have to prepare our bees for winter as those do in the East. We can set down a hive where we want it, and there it stands year in and year out.

Now, do not take my word for anything, but come and see for yourself. I know many a poor man that came here, all broken down in health, went into the mountains and started a bee-ranch in the most primitive manner, and came out all right, with excellent health and independent. Neither do I wish to advise any one, but I am trying to give facts as I see them. I have been in this State over 15 years, and I confess that I am enthusiastic over our country and climate. Now what are you going to do about it?

Santa Ana, Calif.

P. S.—I ordered six queens from a Massachusetts breeder, and they were 11 days on the road, owing to washouts in Arizona, and other delays, and they arrived with not a single dead bee. They were put up in quite a different manner from what they used to be when I was a bee-keeper. E. G.

Southern Department.

CONDUCTED BY

DR. J. P. H. BROWN, AUGUSTA, GA.

[Please send all questions relating to bee-keeping in the South direct to Dr. Brown, and he will answer in this department.—Ed.]

Eight-Frame Hives—Management of Bees.

"'Eight frames are not enough for some queens,' and similar expressions, are still found in the pages of some of the bee-journals. I cannot help wondering how long this fallacy will last.....To hear some talk, one would think that 'cramping a queen for lack of room,' was one of the most disastrous things possible for a bee-keeper to do."—W. Z. HUTCHINSON, in Review for July.

Look here, Mr. Hutchinson, you needn't think that you and Heddon know everything, and what you "don't know" is not worth knowing. Whatever may be right with yourself, and in your locality, is not necessarily the best everywhere else, and in everybody's hands. Cramping the laying of a queen by lack of room, with me, means invariably a swarm instead of a surplus of honey, and is certainly unquestionably "disastrous" so far as my pocket-book is concerned, and this is not a "fallacy," but an incontrovertible fact.

Let us look at the question carefully.

The amount of brood reared by a colony depends on four factors:

- 1st. The strength of the colony.
- 2nd. The prolificness of the queen.
- 3rd. The temperature.
- 4th. The amount of room, or rather of empty comb, for the queen to lay in.

Of course a honey-flow is supposed.

The 1st condition is evident. No matter how prolific a queen can be, no more brood will be reared than the colony can take care of. The 2nd and 4th are also evident. The 3rd deserves a little more consideration. During the early spring, the temperature is too low to permit any more brood reared than the bees can well cover. That is, only the space occupied by the cluster of bees is kept warm enough for brood-rearing and also for comb-building. As the weather gets warmer, the cluster will expand, and even if the colony is not stronger, the amount of brood will be greater. During the summer, in July and August, when there is no need of keeping the brood covered all the time, the bees will be found scattered in the whole hive, and even a small colony will rear a considerable amount of brood.

Now, for your case.

You first go into winter with rather weak colonies, of old bees, at that. Don't you say it is not so? It must be. With your system of curtailing brood-rearing in the summer, for fear of boarding "useless consumers" during the balance of the year, you cannot have very strong colonies in the fall. After a long, severe winter, you come out in the spring with weak colonies of old bees. These old bees disappear rapidly, and on account of the low temperature cannot rear any more brood than they can cover. It is fully four weeks before the young bees begin to emerge. You have now only four weeks more to build good, strong colonies just before the honey-flow begins. I mean the honey-flow upon which you depend for surplus. Four weeks with a weak colony of old bees, a small amount of brood ready to hatch, or rather to emerge from the cells, cannot build such a very big thing, and I have no doubt that with your management, and in your locality, your eight frames are enough.

Well, you are now at the eve of the honey-flow, with your eight frames full of brood, rather than bees, your queens wanting to swarm badly because they are cramped for space, and what is of more importance yet, only a few weeks to gather your surplus. Under such circumstances, you let them swarm, throw as many bees as possible in the swarm, and by contracting the brood-nest, hiving on starters, etc., contrive to make the swarms produce as much surplus honey and as little brood as possible. Now, if I am mistaken, please correct me.

In my locality the honey-flow can be divided into three periods, viz.:

1st. The maple and fruit blossoms from the middle of March until about May 1, or a little later.

2nd. The second period, from May 1 to the middle of June, the principal sources of honey being the poplars, white clover and honey-dew. The poplars are very scarce in this locality; the white clover depends on the abundance of rain, and does never amount to very much. The honey-dew is either nothing, or next to nothing, or very heavy, so the honey-flow during that period of about six weeks, is a very variable and very uncertain quantity.

3rd. The third, and I might call it the white honey period, from the middle of June to the middle or the end of July, more or less. The chief sources are the persimmon, wild grapes, and mainly the sourwood; also the basswood, where there is any. (There is not a single basswood tree in this neighborhood.) This third honey-flow may be more or less, but never fails.

The winters here are not what they are with you. Our bees are invariably out-doors, fly very often, and rear more or less brood during the winter, and generally come out in good condition, except, of course, the cases of starvation, queenlessness, or sometimes robbing during the winter. By the first of May they are about ready to swarm, but during that time, a prolific queen, if allowed room enough, and with a colony in good condition, can fill with brood a hive of 11 Langstroth frames as well as one of eight, and thus make a colony 50 per cent. stronger. Many times, with a small hive, swarming will occur during April, with a fair chance of being repeated later in the season, which last case is "disastrous," sure enough, so far as surplus is concerned.

If I could prevent swarming, and keep up brood-rearing, and thereby the strength of the colony, during the whole honey-flow, I should get a considerable surplus. In fact, the colonies that occasionally have not swarmed, have invariably given me more surplus than any colony and its swarm have ever done. Of course, I am not speaking of colonies not having swarmed because they were too weak, but of those of full strength.

If I hive the swarm upon a new stand, and let it build up, being strong in bees it will soon be in good condition, and may give me some surplus during the third period of honey-flow. The old colony having all the brood and some old bees, will build up sooner than the swarm, and generally give a fair surplus of white honey. Remember, that when swarming occurs here, I have yet about ten weeks of honey-flow; the first half of it very uncertain, and producing mostly inferior honey, and the last half producing white honey, and so far has never failed, but neither one can compete in abundance of nectar with your basswood flow.

As far as I have tried it, your system of management, as described in the "Advanced Bee-Culture," is a complete failure in localities like this. The old colony removed, and deprived of as much of their bees as possible, cannot build up in time to store any surplus. The swarm will gather a considerable amount of dark honey during the first few weeks, if there is any to gather, which is not always the case—probably only one year out of two, taking all together. After a few weeks the old bees have nearly all died out, very little brood has been reared, and the swarm is too weak to store any surplus white honey.

And, after all, is your management the best, even in your own locality? That you have obtained good results with it is incontestable, but could not as good results be obtained otherwise? The Dadants are in a locality exactly similar to yours, except that they have no basswood, and they have as good "crops" of honey as yours, and by an entirely different management. You say that it is because they produce extracted honey. That's right; but they produced comb honey for a number of years, and it was during that time that they made their experiments with different sizes of hives and different methods of management.

ADRIAN GETAZ.

Knoxville, Tenn.

The Alsike Clover Leaflet consists of 2 pages, with illustrations, showing the value of Alsike clover, and telling how to grow it. This Leaflet is just the thing to hand to every farmer in your neighborhood. Send to the Bee Journal office for a quantity of them, and see that they are distributed where they will do the most good. Prices, postpaid, are as follows: 50 for 25 cents; 100 for 40 cents; or 200 for 70 cents.

The McEvoy Foul Brood Treatment is given in Dr. Howard's pamphlet on "Foul Brood; Its Natural History and Rational Treatment." It is the latest publication on the subject, and should be in the hands of every bee-keeper. Price, 25 cents; or clubbed with the Bee Journal for one year—both for \$1.10.

Questions AND Answers.

CONDUCTED BY

DR. C. C. MILLER, MARENGO, ILL.

[Questions may be mailed to the Bee Journal, or to Dr. Miller direct.]

Starting in Bee-Keeping.

I desire to go into the bee-business. 1. How many and what kind of bees should I buy?

2. Will it pay better to buy large colonies in April and May, at \$1.00 per colony, or pay \$2.00 for them in the log-hive? I have had some experience with bees for about five years.

J. A. S.

Tracy City, Tenn.

ANSWERS.—1. Two colonies is a good number to start with, but as you have had experience you might add to that number according to your experience, perhaps starting with 10 colonies. Get the nearest you can to pure Italians, but if you can't get Italians near by, get blacks, or any kind you can, and then Italianize them.

2. Better get the swarms at a dollar each, and have them put into good, up-to-date hives with movable-frames.

Carrying Out Brood—Pea-Bloom and Golden-Rod.

1. My bees are carrying out the young brood about half ready to hatch. Can you tell me the cause? They lie out over the hive and don't work much, doing nothing in the supers, but carrying in some pollen.

2. Do bees gather honey from pea-bloom and golden-rod? Dyersburg, Tenn., Aug. 21.

H. M. P.

ANSWERS.—1. The probability is that they are getting so little stores that they think they can't afford to support a lot of drones, so they are carrying out the half-grown drone-larvæ.

2. Yes, but I don't know how much. There's great diversity of opinion as to the value of golden-rod as a honey-plant. Some say it yields well, others say it doesn't amount to anything. Probably it acts differently in different places, and perhaps at different times.

Wintering Bees—Why Did they Swarm?

1. I winter my bees out-of-doors in 8-frame dovetailed hives, with supers filled with chaff, and find that much frost gathers under the flat covers and melts when a thaw comes, and runs down, wetting the chaff more or less at the ends and covers, which afterwards freezes and sometimes molds. How shall I avoid this trouble?

2. Is it better to let the bees have 8 frames, or to remove the two outside ones and replace with chaff-packed division-boards?

3. I had a fine, large swarm to issue Aug. 10, at 4:30 p.m., when honey had been so scarce for a month that bees could hardly gather a living. The weather being very hot and dry, I opened the hive and found some queen-cells nearly finished. Why did those bees swarm?

J. M. R.

Viola, W. Va.

ANSWERS.—1. There must be sufficient leakage to allow the moisture slowly to escape before it condenses on the cover or walls. Some have an inch hole covered with wire-cloth, in one end of the cover or cap.

2. Counting trouble and all in the case, I believe I'd leave the eight frames as they are. You may tell better by trying both ways side by side.

3. It's hard to account for all the freaks of bees. From what you say I can't see any reason at all for their swarming. Possibly their being in a hot place may have had something to do with it.

Wintering on Langstroth Frames on End—Rearing Queens in Upper Stories.

1. In "What Dr. Miller Thinks," on page 454, you say, "What will be the use of alternating the frames, etc.?"

There may not be any advantage in it after all, but I have seen it in print so often, that the right way to winter successfully is to have a deep hive with plenty of capped honey in it, so that the whole cluster will have food enough

over them to last them until spring without their having to move in any direction but up, and not break cluster at all; and it seemed so plausible that I had come to think it was the correct thing, and have been experimenting in that direction for several years. I have up-ended the whole hive, which was a bad mistake, as there was not room enough below the frames, and the dead bees clogged between the frames and made a mess. Then I tried two bodies high, with 4 and 5 frames in each, and both sides packed, and in only one of eight did they stay in the lower story. The rest all went to the top, and left capped honey below.

Last winter I tried the plan as reported in the Bee Journal, with perfect success as far as loss of individual bees was concerned, and incidentally as far as consumption of food (notice the last sentence in "Experiments on Wintering," page 459), but not in having them stay at the bottom of the hive and work up gradually as they consumed the honey directly over them. One reason why not, was that when I up-ended the hives in the fall, about all the frames were half full of capped honey along the top-bar, with a little capped brood in some (the laying was over), and they were fed on top until the empty cells were filled and capped over half way down. Naturally, the first food consumed was the uncapped in the lower quarter of the frames. After they had gotten up that far, they concluded they might as well keep right on and go to the top where it was warmer. They know when they feel good, just as well as "homo" does.

Well, you can see by alternating the frames there will be old capped honey in one frame, and empty cells in the other frame next to it—a regular zigzag in the lower half of the frames, and they will not have the same chance to go up that they did last winter. I want to keep them down, even if they winter as well at the top, just from the idea that it seems more natural that they should breed in the lower part of the hive first—they do all summer, why not in spring?

I have 14 colonies, and they will all be wintered on five frames each, stood on end, next winter, and that will tell the story with me about wintering.

I write this to you because I would like to have you try some (say 10) the coming winter, and see how it works at Marengo.

I take notice that some old writers of the American Bee Journal are hinting that perhaps it might do to stand the shallow-frame hives on end; and, between you and me, they will try it, but they won't "let the cat out of the bag" until the spring is over.

2. I tried Doolittle's plan for rearing queens. I could not get a cell started in the upper story. I then got capped queen-cells from a brood-nest, and put one each on a frame of brood in the upper story of six hives (middle of clover); two were torn down; two others, queens found dead on the queen-excluder; two others that I saw, queens alive. I could not find any at all in a week after, with two excluders between the two bodies—(of course a hole for exit was in the upper body). Good thing in Borodino, N. Y.; no good in Lancaster, Pa. Ergo; you might find it so with up-ended frames, but I doubt it.

Lancaster, Pa.

T. T.

ANSWERS.—1. Your statement was that sealed honey would not keep the bees from going to the top, and from that one would understand that in any case bees would go right to the top, in which case alternating the frames would do no good, for even if the frames were all filled with honey, the bees would go up through them to the top. I'm rather inclined to the opinion that you mean they will go through sealed honey in a lower story to get up into the upper story. If I am not mistaken, bees seem to like sealed honey over them, and if they are in a hive full of sealed honey they will stay just under it, working their way up as the honey is eaten. With the frames on end, there were empty cells all the way to the top, and, as you found, the bees followed those empty cells to the top. I'm a little afraid you'll not find the thing so very different even with the zigzag arrangement, for the empty cells will still have some effect, even if alternated with sealed combs. I suspect, however, that you can accomplish your purpose to keep them down by setting the frames on end quite early, or right away. In that case the bees would have time to seal up the honey above them, and thus there would be no empty cells to lead them up. You might help the matter by uncapping all the honey in one-half the frame at the time of setting on end; that is, in the part that will be the lower half when set on end, but it will hardly be wise to do this unless done pretty early. If done too late, I think the bees will carry the unsealed honey to the top and seal it there.

2. I suspect that the same management in Lancaster would produce the same results as at Borodino with regard to

rearing queens in upper stories. In order to get queens reared in upper stories, there must be a certain amount of isolation, and if you fall short of that, the thing won't work. Try this: Put a cloth between the two stories, so that there is only a little space at the sides for the bees to up through; and, if that doesn't work, put two stories of empty frames between the brood-nest and the upper story that has the brood in.

Dividing a Colony.

We have a very large colony of bees in a box-hive. If I should drum them out in fruit-bloom, next spring, and leave enough bees in the box-hive to keep the brood warm, would they not rear themselves a queen in the time they were hatching out the brood? If not, how shall I proceed, as I want to make two colonies of the one in fruit-bloom, next spring.

Peris, Oreg.

W. D. M.

ANSWER.—Yes, if you leave enough bees in the hive to take care of the brood, in about three weeks from the time you drum them out, they will have a new queen laying. But now look here, unless they are stronger than most colonies are at the time of fruit-bloom, you may do mischief by dividing them at that time. It will be a good deal easier for you, and most likely better for the bees, to wait till they swarm naturally; but if they don't swarm then and are strong, it may be well for you to take things in your own hands.

Seems to be Bee-Paralysis.

What ails my bees? They are dying off in one colony by the hundreds every day. They turn very black, shiny and slim, and become unable to fly well (with some exceptions). Then the well bees fight them and drag them from the hive. I sometimes see similar actions to those asked about by "H. C. T." on page 522—a struggle between two bees, the well one dragging the other to the ground, a separation, the sick, shiny one not yet being too weak to fly, hence both returning to the hive. Sometimes the appearance of the sick ones is varied by apparent flattening and enlargement of the abdomen; but I imagine this to be in the earlier stage before becoming noticeably black, slim, or shiny. The bees, until becoming sick, are active, etc., as any other bees. But the colony has been queenless for some time (over three weeks now), and I found them absolutely destitute of honey, and (some days ago) with dead young bees nearly mature enough to come from the cells with the cappings off. I thought that this was possibly the work of the old bees, because of absence of food.

Monterey, Calif., Aug. 20.

A. N.

ANSWER.—From your description, it seems to be a case of bee-paralysis. A good many remedies have been given from time to time, as you will see by looking at back numbers of this journal, but it seems that after a remedy is given some one reports that he has tried it and failed to find any benefit. The remedy most commonly recommended is a change of queen, but there may be a doubt whether that has much effect. The truth, I think, is that we are yet in the doubt as to the cause or cure of the disease. In the North the disease usually disappears of its own accord, and amounts to but little, but as far south as you it seems to be a real scourge. I can only repeat to look up back numbers, and try any of the remedies you like, but I don't feel wonderfully sanguine that any of them will do much good.

Drunken Bees—Beet-Sugar and China Sugar—Bee-Literature—That "Dime Smoker."

1. Do you know that bees get drunk on honey around the seductive blackberries, and die? In Oregon thousands perish this way yearly, and whole colonies are disrupted. What is the remedy—a Keeley bi-chloride of gold cure, or total abstinence (on the part of the bee-keeper) in planting blackberries? That awful Australian nuisance—the so-called Oregon ever-bearing blackberry (which some of the Eastern seedmen have nerve enough to ask 50 cents per plant) blooms a long time—over three months under certain conditions—and bees work on them greedily. Now, will it pay to plant them and have drunken bees?

2. Is beet-sugar, granulated, as good for feeding bees as cane-sugar? Is China, granulated (the kind most frequently met here), as good?

3. Why have bee-journals better written articles, more humor, better literary style, and a more scientific treatment

of topics than other journals devoted to other branches of agriculture? Is it on account of the "poetry" of it?

4. Could that Doctor (G. P. Hachenberg, of Austin, Tex.,) be made to yield up the secret of his "dime smoker," which he says he described in the American Bee Journal of Dec. 5 and Aug. 8, 1888, for the benefit of those who did not know of the Bee Journal's existence until the last few months?

Yankton, Oreg.

M. S. L.

ANSWERS.—1. No, I didn't know bees were so affected by blackberry blossoms. I've read of such things with different kinds of plants, but never saw bees in anything but a respectable degree of sobriety except when working on the Chapman honey-plant. They don't get riotous or fighting drunk, just appear stupid. I've little faith in the Keeley cure, but should try to arouse in the bees a feeling of self-respect, and induce each one to sign a total-abstinence pledge.

Seriously, isn't it possible that only part of the bees are incapacitated for work, and that more stores are carried from the blossoms than to pay for all harm done?

2. I don't know, and I can't find out for certain. Generally we are told that there's no difference between beet-sugar and cane-sugar, and that a chemical analysis shows them to be exactly alike; but across the ocean they insist that beet-sugar is not fit to feed bees for winter. I don't know about China sugar. If it's made of cane, I don't know why it shouldn't be good, always supposing it's properly refined.

3. My dear fellow, you're way off. Bee-literature is in such a bad state that an essay at the last Michigan State convention was read lamenting its decadence, and suggesting that the present writers be shoved out of the way and a fresh lot set to work. Perhaps if the writers of the bee-journals wrote upon other topics you wouldn't find them so interesting. Still, there's A. I. Root, who writes about everything under the sun—from piety to pie-plants—and he's always interesting.

4. Respectfully referred to ye editor.—[Probably Dr. H. will comply with M. S. L.'s request.—EDITOR.]

What Ailed the Bees?

Last summer I had 10 good, strong colonies of hybrids, and about Oct. 1 I moved them from my ranch into town, and they all seemed to be all right after the trip, and went into the winter with a good supply of honey, and seemingly all right. I did not notice anything wrong with them until a warm spell in February. I noticed that two colonies of them had the dysentery, but it came off nice and warm for a few days, and they seemed to get over it. Some time along in the latter part of March it made its appearance again in those two and one or two others, and along the last of April, while the fruit-bloom was out, I transferred them from the box-hives they were in into some new hives with Langstroth frames. A few days before I transferred them I noticed that the ground on a warm day would be just covered with bees crawling away from the hives, and could not fly. I would pick them up and toss them up into the air, and they would fall to the ground. They did not seem to have any use of their wings. After transferring them, they all had an attack of the dysentery, caused, I suppose, from filling themselves with honey when I was transferring them, but I could not find anything wrong with the honey, as far as I could see.

They kept up this crawling away until three of the colonies disappeared altogether, and the remaining seven were very weak.

About two weeks after transferring, I put in Italian queens, and after the young bees from those queens began to hatch out, they began to build up, and the seven I have left are pretty fair colonies now, and nearly all Italians. None of them swarmed this summer, nor stored any surplus honey, but I noticed a day or two ago that crawling on the ground again, but do not see any signs of dysentery, but, on close examination, I find those that are crawling on the ground seem to be swollen, or look as if they might be full of honey, but on smashing one of them, the body seems to be full of that dark, yellow fluid, like the discharge when they have the dysentery. I cannot find anything in "A B C of Bee-Culture" that gives any information in regard to it.

A. E. H.

Tacoma, Wash., Aug. 20.

ANSWER.—I'm sorry to say I don't know enough to help you. Something of the same kind has occurred before in Wisconsin, and perhaps elsewhere, but so far as I remember the cause seemed a mystery. I think the trouble disappeared of itself, and I hope that may be the case with you. In the meantime, I shall be glad if any of the friends who can do so, will give information that will help us out.



George W. York, - - - Editor.

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Editorial Budget.

The Toronto Convention is now a matter of history. I reached the Bee Journal office this forenoon (Sept. 7), having left Toronto yesterday at 3 p.m. The attendance, as usual, was not as large as expected, but was about like that of the St. Joseph convention. The best work done was undoubtedly that looking toward a union of the North American and the Bee-Keepers' Union. A committee was appointed to perfect plans for amalgamation and submit them to the members of both organizations, who will vote upon them by mail. The committee will also report as soon as possible through the bee-papers.

I will not attempt at this time to go into any details concerning the convention, but will in the next number begin some "convention notes," and also give the first installment of the report. I may say, however, that the following are the newly-elected officers:

President—A. I. Root, Medina, Ohio.
 Vice-President—Wm. McEvoy, Woodburn, Ont.
 Secretary—Dr. A. B. Mason, Toledo, Ont.
 Treasurer—W. Z. Hutchinson, Flint, Mich.

Another Bee-Season is nearing its close. What about the new kinks you have learned during the past year? Suppose you tell us all about them. You'll be helping others by so doing, and they in return will no doubt aid you by giving the benefit of their experience and experiments. The American Bee Journal is here to help you. It's your own fault if you don't get the worth of the money you pay for it.

Is there any question you want to ask? Well, ask it. Send in a description of the results of your season's work, and then compare it with the others. Don't hesitate to report because you can't write like an old-time journalist. Some of the most helpful contributions are sent in by the poorest penmen—by those who can scarcely write a sentence correctly. But they are often the people who possess the valuable ideas. Write the best you can, and give your very best experiences. Get your facts together, and then on the first rainy day put them on paper, and—mail them to the Bee Journal office.

The National Flowers of some countries are honey-yielders, as they all should be. A few are as follows: Scotland, the thistle; Ireland, the shamrock; Prussia, the linden; Saxony, the mignonette; Canada, the sugar maple; "and finally, that of the United States, adopted by the American Horticultural Society, in 1889—the golden-rod."

Poor Economy.—Some good people have queer notions. For instance, a Bee Journal subscriber who took 30 barrels or honey last year, asks that his subscription be discontinued because he got no honey this year! Now the publishers of this paper don't ask any one to subscribe for it unless he really wants to, but it seems a queer thing to request its discontinuance just because there happened to be no honey taken this year, when such a good crop had been secured last year. Why, one would suppose that after a bee-keeper had a 30-barrel harvest, he would pay his subscription ahead about five years, in order to keep in advance of any poor years that might intervene.

Suppose the publisher of a bee-paper should imitate the above example, and say: "Now this year I've made no money running a bee-paper. I think I'll just stop publishing it—or at least till we have a good honey season again!" Could it be done successfully? Would you want the American Bee Journal to do that? Then why not keep up your subscription to whatever bee-paper you are now reading? It will benefit you and encourage the publishers. Who knows but next year a grand honey harvest may be yours? Don't get discouraged, but keep on in the even tenor of your way, with a stronger faith and a more hopeful hope.

Mr. A. I. Root receives all kinds of invitations from admiring bee-keepers. One recently came from Anthony Opp, of Helena, Ark., who wrote: "Come down this fall, and I will give you a bear-hunt." To which Bro. Root replied, in this joking style:

Well, well! I have had invitations that were hard to resist a good many times, but I do not know that I was ever before asked to go on a bear-hunt. Friend Opp, how fast can a bear run when it is right down mad? Could I take my wheel along? Is bear meat good to eat? Suppose you should take me off on a bear-hunt, and I should get hugged to death—what would become of Mrs. Root, and the rest of them, away back here in Medina?

Bro. Root, please don't go. It's all very kind of Mr. Opp to invite you, but really I think it would be dangerous for you. Have you forgotten "Sweet Marie" of the St. Joe variety show? A dancing bear might be more risky than a dancing girl. I think a bear has stronger "arms." Better not go down there.

Honey for the Complexion.—In the British Bee Journal a correspondent has this to say about applying honey on the face to improve and preserve the complexion:

My wife discovered a remarkable use for honey quite recently. After being out at a theatre and coming home late, she was wont in the morning to look jaded and faded, her skin becoming dry, red, and harsh-looking. One night she tried the effect of rubbing gently a thin coating of honey on the face before going to bed. The result was surprising, and almost tempted me to set up in business as an imitator of the renowned Madame Rachel, who became famous by making ladies beautiful forever. Honey is one of the finest cosmetics in the world, and can be safely recommended to all ladies—and gentlemen, too, for that matter—who wish to preserve a beautiful complexion.

Now, there'll be no excuse for any other than sweet-faced bee-keepers—provided they produce enough honey to put on the outside as well as the inside of their faces!

Mr. D. L. Durham, a bee-keeper living in Kankakee, Ill., called at the Bee Journal office recently. He reported the season quite unfavorable up to the time sweet clover bloomed, when the bees made up for lost time. Mr. Durham thinks there is no honey-plant equal to sweet clover. A good many bee-people agree with him, too.

See "Bee-Keeper's Guide" offer on page 594.

Among the Bee-Papers

Gleaned by Dr. Miller.

DIVISIBLE BROOD-CHAMBERS.

I have over 700 half-story hives, and do not propose to make or use any other style of hive than the divisible brood-chamber, but have not time now to tell why I like it any better than any other hive.—O. R. COE, in *Gleanings*.

CONTROLLING FERTILIZATION OF QUEENS.

"How the Mating of Queens can be Controlled" is the taking title of an article in *Gleanings*, but it is rather disappointing, as the plan given is simply the old one of trapping all drones from undesirable colonies.

MARKETING HONEY.

To sum all up, I would say, put honey up in the most attractive shape possible, and sell for cash if you can obtain as much into a cent a pound as you think it will bring you when shipped on commission. If you cannot thus sell it, ship on commission to reliable parties, sending 500 pounds and under to each party.—G. M. DOOLITTLE, in *Gleanings*.

VENTILATION TO PREVENT SWARMING.

We certainly did not have the swarming with the larger hives that we have had with the 8-frame hives. But there may be another reason for that. We always, during the honey-harvest, left a small opening at the back of the hive, for upward ventilation, and a current of air was constantly passing through the hive, that may have helped a good deal to prevent swarming. We have not been giving this ventilation since we have had the 8-frame hive in use. The bees will not finish up the sections quite so quickly at the back end when the ventilation is given, and for that reason we have discarded it. But I'm not sure but it's a good thing to have the ventilation, nevertheless.

For the last two or three years we have been placing small blocks at the corners under some of our hives, raising them $\frac{3}{4}$ of an inch from the bottom-board, leaving an opening all around, and I believe it's a good thing. It gives them more air, and it may help to prevent swarming—not that we are troubled with swarms at present. We have not had any this year, and are not likely to have. I'm not fond of swarming bees, but I would even put up with the swarms if the honey would only accompany them.—EMMA WILSON, in *Gleanings*.

PREVENTION OF AFTER-SWARMS.

The best way I know to prevent after-swarms is to have all the bees that can fly go with the first swarm, and this is the way I manage it:

Have all colonies strong, even if it should be necessary to double them up in the spring, so that they will swarm at the beginning of the honey-flow. Then hive the prime swarm on the old stand, removing the super, if any, from the parent hive to the swarm; then set the parent hive on top of the swarm's hive and allow it to remain there two or three days. All the young bees that have ever been out of the hive, when they come out, will go in below with the swarm. About the afternoon of the second day, if the weather has been favorable, the parent colony will have become so depleted of bees that they will give up swarming a second time, and will begin to carry out drone-brood. It is then safe to carry them to a new location; they will not swarm again, but will build up to be a strong colony, and will store some fall honey and be a good colony to winter. In this way we get extra-strong colonies that will store more honey than the two together would if the queen-cells had been cut out. Crowd the brood-chamber with bees instead of contracting it.—GEO. W. STEPHENS, in *Nebraska Queen*.

WHY B. TAYLOR DISCARDS DIVISIBLE BROOD-CHAMBERS.

At length I came to the time, as I have told in the June Review, when I had to choose between them; and I had to side in favor of the larger brood-chambers, upon the ground of utility alone, and for the following reasons: The double brood-chambers cost more to make. I have always sold a single brood-chamber, such as I use, for \$1.25, and could not sell two sections of the shallow hive for anything like that sum, for each section costs nearly as much to make as the larger full hive. It is true, there is a little less material in each section of the shallow hives; but in the two sections

there is at least 40 per cent. more material, and very nearly double the work. There are 20 instead of 10 frames; two hive-bodies instead of one, each costing in work and material nearly as much as a single full hive. Now, if I could have secured more honey, or with less work with the double brood-chambers, the increased cost could have been borne without loss; but after 30 years' trial I was compelled to know I could not. I at length became aware that I had over-estimated the double brood-chambers. Especially did this become manifest in the last few years of poor honey crops, when the struggle for bread and butter became greater. I have no apology to make for over-estimating the double brood-chambers.

I once believed the double brood-chamber wintered bees better than the full hive; but in the last few poor seasons for honey I have lost heavily in bees each spring, and the colonies in the double hives fared as badly as those in other hives. I now know that it is the bees themselves that make wintering (when proper rules are observed) safe. I have long observed that some seasons bees wintered well in all styles of hives, and with seemingly careless management. I now believe I know the cause.

Now, do not understand me as denying that the double brood-chamber has some good points; but its bad features overcome them. I have tested the "shake-out" function, the reversible function, about which much has been claimed; and I know that, for practical work, they are *arrant humbugs*.—B. TAYLOR, in *Gleanings*.

BEST SIZE OF HIVES.

Concerning the discussion as to big and little hives, Ernest Root says:

"In the meantime, let us not forget that we have had a few 'eye-openers.' Let us rehearse just a few of them. (1) More bee-keepers are using cubical hives than we supposed. (2) A larger number find the 10-frame hive preferable to the 8-frame than we had any idea of; and (3) it is evident that some bee-keepers are, or have been, getting along with too small a brood-nest; especially is this true in the South and West. (4) Some like divisible brood-chambers that can be contracted or expanded at will, and think this is the best solution of the problem. (5) Others who have tried them do not find them to be an entire success, and have finally concluded there is nothing better than full-sized brood-frames—that is, a brood-nest with a single set of combs.

"But perhaps the biggest eye-opener of all is the fact (6), the 8-frame hive is not as generally accepted as about the right size for all bee-keepers as we have thought.

"Another eye-opener, and closely related to that preceding, is (7) that bee-keepers at large have been running too much toward small sizes in hives, and now the tide is turning slightly the other way. Just where it will land, nobody knows. Now the question rises in view of this, 'Is it wise to stop right here?' I confess I do not know, and ask for greater wisdom of our many readers."

SWEET CLOVER—MELILOTUS ALBA.

Edwin Montgomery, of Starkville, Miss., says this about sweet clover (the great honey-plant) in the *Agricultural Epitome*:

"*Melilotus Alba* is considered only a weed in the Northwest, but in the South it is prized as one of our most valuable forage crops. It belongs to the leguminous class of plants, and hence derives the greater proportion of its nourishment from the air, and the deep subsoil, where the roots of but comparatively few plants can reach and feed. Mowed before the plant becomes too large and woody, the quality of the hay is first-class, and in nutritive quality equal to any of the clover family. In its green state stock is not fond of it at first, but soon acquires a taste. It is a rich milk and butter food. The life of the plant is two years. The usual plan is to mow the plant once the second year and allow the second to mature seed. These seeds fall to the ground and germinate where the conditions are favorable, and thus your land is seeded again for two years more. Seed can be bought at from \$1 to \$1.50 per bushel, and a bushel will sow four acres. It is partial to a lime soil, and I would not advise anyone to sow it on any land not strongly impregnated with lime. It will grow luxuriantly during the most protracted drought, due, of course, to the deep extension of its tap-root into the soil. It is said to make first-class hog pasture.

"A commission merchant for the sale of live stock, at New Orleans, says the best quality of beef he ever received from this State or Alabama was made from animals fattened on Johnson grass and melilotus. As an improver of worn soils it

has no superior among leguminous plants. Gen. Stephen D. Lee, President of the Mississippi A. & M. College, of this place, has been growing it extensively on his farm in Nuxubee county, Mississippi, and claims that when planted on the poorer portions of the farm, land that would only produce 5 to 10 bushels of corn per acre, the same land now produces 30 or more bushels per acre. It is a plant that is steadily growing in favor with the farmers in the lime belts of Mississippi and Alabama."

CRIMSON CLOVER IN DELAWARE.

The value of crimson clover begins as soon as the plants appear above ground, for then they begin to act as a shade and mulch, and to use and conserve fertility which would otherwise have been leached or blown away. They soon begin to draw nitrogen, for the nodules on the roots are found in great plenty, even in early December, or before. From that on until the busy bee extracts its store of sweets from the blossoms, the roots are lengthening out and searching for food three, four, and more feet underground. We have been told that crimson clover has no tap-roots, and therefore cannot reach down after phosphoric acid and potash; also that its life is too short to accomplish the work which red clover does. The facts are, that it does do it; and it has been proved by chemical analysis. We consider the root arrangement of crimson clover more advantageous, because the mass of roots are in the surface soil, where they are most needed. It can be used with or after almost every crop. None should be used on strawberries; for these, use it the year before the patch is set. It should be sown every year in blackberries and raspberries. It will stand the winter here if sown after sweet potatoes are dug.

No plant we have here equals crimson clover as a honey-plant. It produces every year, and all the time when in bloom, some three or four weeks, according to the nature of the soil and climatic conditions. The growth of the blossom seems well adapted for honey-production, as it grows in length, and the bees work on the new growth until the blossom is full-grown, two or three inches in length, in many instances. The principal trouble here in getting the honey seems to be in having the bees good and strong, and ready. It comes early; and if the bees are ready the sections fill very rapidly, and the honey is excellent.—T. F. COOKE, in *Gleanings*.

Notes AND Comments.

CONDUCTED BY

Rev. Emerson T. Abbott, St. Joseph, Mo.

How to Make the Garden Pay.—The question is often asked as to what is best to combine with bee-keeping in order to make it profitable, but I have ceased to put it in this way, as I am confident that the day has gone by for anyone to depend upon bee-keeping alone for a living, except it be in a few favored locations where are grown extensively forage crops which yield a large quantity of nectar. This being the case, it ceases to be a question of what to combine with bee-keeping, and becomes a question of what industries can bee-keeping be made a part. I look upon bee-keeping as a branch of agriculture, and I am thoroughly convinced that most farmers could make a few colonies of bees add materially to their comfort and income. There are also scores of people in villages and small towns who could keep bees to advantage.

Among the things that may well be combined with bee-keeping, or with which bee-keeping may be combined, whichever way you want to put it, is a good garden. People who have never enjoyed the comfort and satisfaction of a garden do not realize how much they have lost in this world. However, in order to make the garden profitable, it must be an up-to-date garden, and conducted in accordance with modern ideas and methods of gardening. These methods may be learned in various ways, but everyone who has a garden will find a modern book upon the subject of great advantage. I have before me such a book, a revised edition of "How to Make the Garden Pay," by T. Greiner, published by Henry

Maule, of Philadelphia; price, \$2.00. (This or any other book mentioned in this department will be sent, postpaid, on receipt of price, by the publishers of the American Bee Journal.)

Mr. Greiner is an experienced and successful gardener, and he has given the world a book which is filled with practical suggestions, and one which is at the same time interesting to read. I am confident that he who calls the attention of his fellowmen to such work does them a great service. There was a time when the cultivation of the soil was considered mere drudgery, but that time has gone by, and to-day the demand is for the highest grade of intelligence in all rural pursuits. What the world wants is men and women who can do something, and do it with intelligence and dispatch.

I feel constrained to urge upon all tillers of the soil, who have under their care a family of children, the importance of placing in their hands just such books as Mr. Greiner's. Give them books to read on general agriculture, gardening, poultry, apiculture, etc., and you will soon find them entertaining advanced views of life, as they begin to realize how much agriculture, in the largest sense of the word, adds to the sum of human happiness, and how dependent the world is on the tillers of the soil. I do not wonder that work seems mere drudgery and life barren to many a farmer's children, as their surroundings offer so few opportunities for growth in knowledge. They have not been taught to think, and they have but little taste for reading, as they have never had anything but a few school-books and the almanac to read. Such children are sure to look upon manual labor of every kind as slavish toil; and, if they occasionally catch a gleam of the possibilities of a better method of living, they are almost sure to seek it in the restless activities of some great city. Many a father sees his son depart for such a life, with sadness and sorrow, as he well knows how many there are who fail, and how many more are carried down to an untimely grave, with ruined lives and blighted hopes, by the great waves of sin which surge and beat on the streets and in the secret and hidden dens of vice in every large city. You ask what is to be done to prevent this, to avert these dire calamities which come to so many? Give them employment early in life; teach them that the noblest and most honorable thing any man or woman can do is to earn a living by the sweat of their brow; make their early lives happy; give them books to read, flowers and fruits to cultivate; make their homes comfortable, pleasant and attractive. In a word, satisfy the longings of their higher natures, and they will soon learn to find enjoyment in any work which the duties of life have laid upon them.

I am aware that all of this is not about bees, nor "How to Make the Garden Pay," but it relates to the higher question how to make life pay, and he who learns this is sure to make a success of any undertaking, whether it be tilling the soil or caring for the busy little workers as they gather the golden nectar to sweeten the pathway of life.

Canadian Beedom.

Foul Brood Among Bees—Phenol Treatment.

Understanding that a fatal disease, known as foul brood, has been prevailing among bees of late years, and also that Rev. W. F. Clarke had gained some important information and experience in regard to it, the Mercury reporter sought an interview with him at his apiary in relation to the matter. The following is the substance of Mr. Clarke's remarks on the subject:

HISTORY OF THE DISEASE.

Foul brood is the most virulent disease with which bees are ever attacked. It is supposed to have existed from the

earliest times of bee-keeping, but not much has been known in regard to it until of late years. Various circumstances have led to its wide prevalence in recent times. The use of the honey-extractor, the breeding of queen-bees and the traffic in bees and their transmission by mail, express and otherwise, have been among the means of diffusing this fell disease. The vicinity of Guelph has been badly infested with foul brood, owing mainly to the establishment of an apiary of 40 colonies near Victoria Bridge. This apiary was sold to the party who started it by Mr. D. A. Jones, of Beeton, probably without his being aware that the bees were affected with the disease. At that time Mr. Jones and other dealers in bees were but little aware of the nature and prevalence of the disease. That apiary of 40 colonies became dwindled and scattered; diseased swarms went off to the woods, and the whole region around Guelph became inoculated with the disease. Even now, comparatively few understand the disease properly to diagnose it.

NATURE AND SIGNS OF THE DISEASE.

People often mistake chilled or dead brood for foul brood. When a cold change in the weather comes in early spring, and the breeding of young bees is pretty far advanced, it often happens that the nurse-bees are not able to sufficiently foster the young brood with warmth. The result is similar to that when a hen does not sufficiently cover her clutch of eggs. Some of them get chilled and become addled. In the same way patches of bee-brood become chilled and lost in a beehive. But this is not foul brood, which is a microbe disease, and must have either the bacillus or the germ in the hive to start it. Its culture is similar to that of such microbe diseases as diphtheria. The signs of its presence are as follows: Discoloration of the larvæ indicating disease, which progresses until it ends in death, when the larvæ changes into a putrid mass, which is of a dark chocolate or coffee color. It is viscid and has a certain toughness, so that when a pin or a sliver is pushed into it it will draw out like taffy. When the disease is considerably advanced it gives forth a most offensive odor, somewhat resembling the stink of a glue-pot, only the smell is more pronounced. Like all microbe diseases, there is a tendency in these diseased germs to increase very rapidly unless checked.

REMEDIES FOR FOUL BROOD.

Various remedies have been devised for the cure of this disease. Mr. D. A. Jones discovered a fasting process. He found that when all their honey was consumed the bees made a fresh start, free of the disease, but there were difficulties in the way of this remedy which prevented it being widely adopted. A cure known as the McEvoy cure has been in most extensive use. Mr. McEvoy is Foul Brood Inspector for the Province of Ontario, and has power to enforce his remedy by law. It is no doubt an effectual cure when properly applied, but the objection to it is its costliness and the trouble involved in it.

Various drug remedies have been resorted to, and one of these, known as the Cheshire cure, has been successfully adopted by some careful experimenters. Mr. Cheshire, though not the discoverer of the cure, was the first who achieved distinguished success with it. Unfortunately he died before he was able fully to develop his process. In Volume II of his great work entitled "Bees and Bee-Keeping," he gave a full account of the bacillus and its germ or spore, and briefly detailed his method of treatment. To prove the efficacy of his cure he challenged the British Bee-Keepers' Association to produce the worst case of foul brood that could be found, and pledged himself to cure it, which he did to the satisfaction of the Association. The recipe was then published to the world. It was tried by many bee-keepers in Britain, on the Continent, in the United States, and by a few in Canada, all of whom failed to make it a success. Mr. Clarke has been experiment-

ing with this remedy for the past three years, and believes he has hit upon the essential conditions to success. They are few and simple, and may be briefly explained as follows:

The drug is known to chemists by the name of "phenol," which is a refined preparation of carbolic acid. To succeed with this remedy it is necessary that the bees should consume a portion of it. They are tempted to do this by its being mixed with sugar syrup in certain prescribed proportions. To induce the bees to partake of it, it must be greatly attenuated and fed to them when there is no honey to be gathered. Fed in a time of scarcity of nectar, they will take it, if given one five-hundredth to one seven hundred and fiftieth, that is to say, 500 to 750 parts of sugar syrup to one part of phenol. Taken by the bees anywhere in these proportions the drug will kill both the microbe and the spore. This fact, which Mr. Clarke believes has been demonstrated, is of the greatest importance to bee-keepers.

The present is the most favorable time for trying the remedy. The bees are hungry for food, and, like a starving man who is not particular for luxuries, like quail on toast, the bees are glad to get a plain article of food. The remedy is cheap and of easy application. Mr. Clarke is anxious that bee-keepers should put this remedy to the test. It is of no use merely to place the phenolated syrup in the hive—the bees must consume it in a curative quantity. They will do this if they have no honey to gather from outside. Let it be distinctly understood that two conditions are absolutely essential to success in the use of this remedy: First, that the bees have no other resources, and second, that phenol be diluted so that the bees will accept it. This will be somewhere between the 500th and the 750th. Mr. Clarke gives this wide margin because he is not sure whether phenol is always of the same strength. Phenol may be obtained of any good druggist.

Syrup, medicated with phenol as described, is a preventive as well as a cure. Owing to this having been an exceptionally bad honey season, a great many colonies of bees will require feeding before winter, and Mr. Clarke earnestly advises all who have any feeding to do to do it with phenolated syrup. About five cents' worth of phenol is sufficient for 10 or 12 pounds of sugar syrup. It is a cheap and easy experiment for bee-keepers to try. Bees that do not require feeding, but are suspected to be tainted with foul brood, should have a small quantity of the phenolated syrup daubed over the brood-combs and run into the cells adjacent to the brood. If this be done the bees will assimilate a curative quantity of the drug.

This is a thoroughly scientific mode of treatment. It is well known that carbolic acid is one of the most potent of antiseptics, and, as already stated, if the bees can be induced to take it, it will kill both bacillus and the spore.

It has been stated that any drug that will kill the bacillus will also kill the bee. This he has proved, over and over, to be a mistake. Phenol, given as he has directed, will kill the bacillus and spore of foul brood without hurting the bees or larvæ.—Guelph, Ont., Mercury.

"In Shipping Comb Honey," says Prof. Cook in the Rural Californian, "the shipping-crate should not hold more than 12 pounds; should have glass sides, so as to show that the contents are fragile, and should be so placed that the combs will run endwise of the car. This prevents the comb from breaking out."

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General Items.

Bee-Keeping in Oregon.

This is my first year with bees. I started with a few colonies, and I shall endeavor to increase them as much as the future will permit. I have only been stung once this season. I believe I am poison to them, as their sting never swells on me. Years since I used to hunt wild bees in the caves in California, principally for the ten dollars a colony I got for them, and on the large cave or seam rock near Los Angeles, I've used many pounds of powder, and from it I got countless pounds of honey, where I had to swing over the cliff by a rope, then let down 100 feet to reach them.

I know many would frown to visit some bee-keepers here. Some have as high as 150 colonies, many 20 to 50, and they nearly all use sulphur in the fall, and kill the old colonies to rob them, because they only use a one-chamber hive, with no frames, and many of them put honey, comb and all, into a barrel, and chop it up. Imagine the mess! Of course, it is not salable, and what is not consumed by the family, is usually fed to the hogs. They laugh at me when I try to tell them of other ways. Being somewhat isolated, they have to ship by vessels, and that at rare intervals, and the people being poor, I suppose has something to do with their ways of ignorance. Probably there are 800 colonies of bees in a range of five by 20 miles, and not a thousand pounds of honey shipped. From May 1 to the last of September the bees never cease to work, and are supplied with some kind of bloom by nature. There is little honey-dew here, and a failure of crop has not been known. **T. E. RUSSELL.**

Florence, Oreg., July 30.

Bee-Keeping in Florida.

Florida bee-keepers are "not in it" this year, nor likely to be for several years to come. The freeze last winter annihilated all orange and mangrove blossoms. I do not know of a Florida bee-keeper who is getting much surplus honey. I have 60 colonies, and there was just enough honey in March, April and May to set them to breeding and swarming, with but very little to extract. I never before saw so many swarms with so little honey. We have always depended upon keeping down the swarming-fever by extracting, but this year they would swarm long before we thought there was honey enough to extract. I have kept bees 18 years, and there were more swarms out this year than all we ever had before in the 18 years. After the 60 hives were filled I did not care to increase the number of colonies, so I cut out queen-cells, or made some nuclei for rearing queens so as to get rid of all old queens that were not pure Italians, and built up all the weak colonies. But they constantly built new queen-cells, and made things lively. I keep all queens' wings clipped, and only allowed three or four swarms to get away. When they had reared young queens that were overlooked, I remember one day two large swarms came out and

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settled together, making nearly a bushel of bees. Before I could take care of them, a strong nucleus came out, and I knew if they got together I would have hard work to find the young queens, so I threw a canvas over the two swarms just before the nucleus settled, and easily found the queen on the top of the canvas.

We extracted only 10 pounds per colony. In our section we dare not extract any after the forepart of June.

Last year was the great honey year of Florida. We took over 30 barrels of honey. We use a one-story hive, two feet long, and holding 15 frames about 10x12½ inches, inside. We use them only for extracting, and do not care to exchange them for any other. I think bees will increase faster in a hive deeper than the Langstroth. We generally extract first one end, and then in a few days the other, so that half of the hive will always have honey.

We had two or three cases of what we called "bee-paralysis," but it all disappeared of itself, and I have seen no signs of any this year.

There were several cases of what I feared might be foul brood several years ago in our Iowa apiary. There would be a good deal of dead brood in the cells. I noticed that it was confined to colonies of very dark hybrids, and on introducing young Italian queens it all disappeared. An account of it was published in the American Bee Journal 10 or 12 years ago. I saw in the Bee Journal an account of the similar case a few weeks ago.

It will probably be several years before Florida will have much surplus honey to put on the market. GEO. W. WEBSTER.

Lake Helen, Fla., Aug. 19.

Bee-Keeping in Washington.

Perhaps some of the bee-keepers would like to hear from this section of the country. I have been keeping bees now for five years, but this is the first year of practical work. I have been keeping my bees at Port Townsend, which is on a peninsula, but the pasturage was too limited, and we had many windy days, so I moved my apiary, consisting of 30 colonies, to my present location. In the spring, during the latter part of April, and through May, bee-forage consists principally of willow, maple, fruit-bloom, and the various wild vines and bushes, some of which are the salmon berry, wild raspberry, wild huckleberry (which is red here), blackberries, and the Oregon grape, which is a little bushy plant growing about six to eight inches high, and has needle-pointed leaves.

Our main crop of honey is obtained from the white clover, with which every roadside and pasture and orchard is covered, and which grows everywhere where it can get a hold; in fact, this whole country seems to be especially adapted to its vigorous growth. The clover begins to yield from about July 1, and until about the middle of September, although this year it did not yield quite as well as usual, as the season has been very dry; and since Aug. 1 the forest fires have been raging so that some days the bees could not work very well; still I have some colonies that have

swarmed, and the old colony has already stored 48 pounds of surplus—not so bad, after all.

F. M. LITTLE.

Junction City, Wash., Aug. 15.

Queens and Queen-Rearing.

If you want to know how to have queens fertilized in upper stories while the old queen is still laying below; how you may safely introduce any queen, at any time of the year when bees can fly; all about the different races of bees; all about shipping queens, queen-cages, candy for queen-cages, etc.; all about forming nuclei, multiplying or uniting bees, or weak colonies, etc.; or, in fact, everything about the queen-business which you may want to know—send for Doolittle's "Scientific Queen-Rearing"—a book of over 170 pages, which is as interesting as a story. Here are some good offers of this book:

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—OR—

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—BY—

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From a \$50.00 Breeder obtained of Doolittle. Also **Leather Colored** from one of A. I. Root's very best imported Queens. Price—1 Queen, 50c.; 6 for \$2.75; \$5.00 per dozen. Will warrant 95% of Queens purely mated; Bees to be gentle and excellent honey-gatherers. **H. G. QUIRIN,** 344th BELLEVUE, Huron Co., OHIO.

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10,000 pounds of **BEESWAX**, for Cash. Address, **LEAHY MFG. CO., Higginsville, Mo.** Mention the American Bee Journal.

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This celebrated Press for making Comb Foundation is acknowledged to make it most acceptable to the bees. I have one which has been used, but is in perfect order. The outfit consists of—

- 1 Given Press with Lever, 11x16 1/4 inches.
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- 4 Dipping-Boards, 10x12.
- 2 Dipping-Boards, 6x16 1/4.
- 2 Double Boilers for Wax.
- 1 Book of Dies, 9x16 1/4.
- 1 Book of Dies, 9x12.

The outfit cost over \$100, and is a great bargain for any one desiring to make Foundation for personal use. I offer it for \$50.00, free on board cars here.

Thos. G. Newman, 147 South Western Ave. **CHICAGO, ILL.**

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Write for Free Illustrated Catalogue and Price-List.

G. B. LEWIS COMPANY, Watertown, Wis.

Be sure to mention the American Bee Journal when you write.

Honey & Beeswax Market Quotations.

CHICAGO, ILL., Aug. 25.—We are having considerable inquiry for comb honey. We have as yet received but a few small consignments. We quote: Fancy white, 15c.; No. 1 white, 14c. Extracted, 5@7c. Beeswax, 25@27c. **J. A. L.**

KANSAS CITY, Mo., Aug. 20.—The receipts of new comb and extracted honey is fair, the demand not large, but will increase with cooler weather. We quote: No. 1 white comb, 1-lb., 14@15c.; No. 2, 12@13c.; No. 1 amber, 11@12c.; No. 2, 10@11c. Extracted, white, 6@6 1/2c.; amber, 5 1/2@6c.; Southern, 4 1/2@5c. Beeswax, 22@25c. **C. C. C. & Co.**

PHILADELPHIA, Pa., Aug. 19.—New crop of comb honey is coming in more freely and generally in good condition. Demand is now beginning to spring up. New extracted is arriving in a small way. We quote: Fancy comb, 14@15c.; good, 13c.; fair, 9@11c. Extracted, 4 1/2@5 1/4c. It is hard to get our market to rally after the blow it received in the spring on discovering such a large amount of beeswax adulterated. We quote pure wax, 22@25c. **W. A. S.**

ALBANY, N. Y., Sept. 6.—Honey market opening with good demand. Receipts lighter so far this year than last, but do not look for higher prices. We quote: White comb, 14@15c.; mixed, 13@14c.; dark, 11@12c. Extracted, white, 6 1/2@7 1/4c.; mixed, 6@6 1/4c.; dark, 5 1/2@6c. Beeswax, 28@29c. **H. E. W.**

CHICAGO, ILL., Sep. 4.—The new crop is coming forward and sells at 15@16c. for best lots; dark grades, 9@12c. Extracted ranges from 6@7c. for white, and 5@5 1/4c. for colored, flavor and package making difference in price. Beeswax, 27@28c. **R. A. B. & Co.**

BUFFALO, N. Y., Aug. 23.—Receipts of honey are light as yet. Comb and fancy stock would sell at 14@15c.; choice, 12@13c.; buckwheat is moving exceedingly slow and is hard to place. The indications are that early shipments will realize the best results. Beeswax, 25@30c. **B. & Co.**

CINCINNATI, O., Aug. 7.—Demand is lively for new extracted and comb honey, all old honey being closed out. Arrivals are fair but insufficient for the demand. Comb honey brings 14@15c. for choice white. Extracted, 4@7c.

Beeswax is in good demand at 20@25c. for good to choice yellow. **C. F. M. & S.**

CHICAGO, ILL., Aug. 23.—Fancy white comb honey (1-lb.) in nice, clean packages sells at 16c.; other grades of white honey, 14@15c.; amber, 13@14c. We are having a good trade in extracted honey, selling light amber and white at 6@7c.; dark, 5@5 1/4c. depending on quality and style of package. Early shipments to market advised so as to permit of sale before cold weather sets in. Beeswax, 28c. **S. T. F. & Co.**

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 43 South Water St.
S. T. FISH & Co., 189 S. Water St.
R. A. BURNETT & Co., 163 South Water Street.

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN,
120 & 122 West Broadway.
CHAS. ISRAEL & BROS., 486 Canal St.
I. J. STRINGHAM, 105 Park Place.
FRANCIS H. LEGGETT & Co., 128 Franklin St.

Kansas City, Mo.

C. C. CLEMOMS & Co., 423 Walnut St.

Buffalo, N. Y.

BATTERSON & Co., 167 & 169 Scott St.

Hamilton, Ills.

CHAS. DADANT & SON.

Philadelphia, Pa.

WM. A. SELSER, 10 Vine St.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central sts.

Question-Box.

In the multitude of counsellors there is safety.—Prov. 11-14.

Home-Made or "Boughten" Comb Foundation.

Query 987.—1. Do you buy or make your foundation?

2. About what proportion of our apiarists do you think make their own foundation?—D.

J. M. Hambaugh—1. Buy. 2. I don't know.

Dr. J. P. H. Brown—1. I make. 2. I can't say.

B. Taylor—1. I make my foundation. 2. I do not know.

G. M. Doolittle—1. Sometimes both. 2. About one-fourth.

Eugene Secor—1. I buy it. 2. Perhaps one in a hundred.

R. L. Taylor—1. I make it. 2. At a rough guess, one in fifty.

Mrs. L. Harrison—1. Buy. 2. Not more than one in twenty.

W. G. Larrabee—1. I make it. 2. I should guess about one-tenth.

J. M. Jenkins—1. I buy. 2. Not more than one in a hundred, perhaps.

Prof. A. J. Cook—1. I buy. 2. I presume very few of the smaller ones.

Rev. M. Mahin—1. I buy it. 2. I do not personally know any that make it.

J. E. Pond—1. I buy it. 2. Possibly one in one hundred, but I don't know.

Dr. C. C. Miller—1. Buy. 2. I don't know, but I think fewer than formerly.

W. R. Graham—1. I make my own, and buy some. 2. About one out of a hundred.

E. France—1. I make it. 2. Foundation dealers can make a better guess than I can.

Jas. A. Stone—1. I have bought it so far. 2. I do not know of one in this part of Illinois that makes his own foundation.

C. H. Dibbern—1. I have a good foundation mill, and formerly made all my own, and some to sell, but I now buy all I use. 2. Very few.

P. H. Elwood—1. I make Given foundation for brood-frames, and buy Van Deusen for surplus. 2. I don't know. Probably less than a quarter.

G. W. Demaree—1. I now buy what I use. 2. I do not know—not one in twenty, I guess. When my apiary was larger than it is now, I made my own foundation, but it would not pay me now.

J. A. Green—1. I always used to make it. I buy what I use now, as I do not have time to make it so as to have it fresh, which would be my only object in making it myself. 2. Only a small proportion—less than 5 per cent.

W. M. Barnum—1. I have always preferred buying my foundation, as I consider that the cheaper and by far less troublesome way. 2. Only about one per cent. of the apiarists of my personal acquaintance make it themselves, and I doubt if that per cent. lasts long.

Rev. E. T. Abbott—1. I buy it, for the same reason I buy my flour—because I think a man who devotes his time and

energy to manufacturing a thing of this kind, can do a better job than I can. 2. I have no means of knowing. As bee-keepers are supposed to be men of average intelligence, I should say very few make it.

H. D. Cutting—1. I have made and bought large quantities of foundation. I prefer to buy the brood, and make the thin. 2. It would be a difficult matter to say, but I think there are not as many making foundation for home use as there were a few years ago.

Mrs. J. N. Heater—1. I buy all my foundation (from whom I think is an honest manufacturer of pure beeswax) both for my own use and for my customers. 2. I think the percentage is small. I do not know of an apiarist in this State (Nebraska) who makes his own foundation.

Allen Pringle—1. I send the wax to a maker and have it made as ordered. 2. If you mean "our apiarists" every man who keeps bees, I should say about a quarter of one per cent. of them make their own. If you mean simply those who use foundation, I should guess about 5 per cent. of them.

Non-Swarming Bees

I am rearing Queens from a strain of yellow-banded Bees that have never been known to cast a swarm! Can any other bee-keeper make such a claim? These Queens are a beautiful orange-color, very prolific, and produce handsome three-banded workers. The Bees are great honey-gatherers, very gentle, enter the sections readily, cap their honey snow-white, and winter on the summer-stands in perfect condition in any climate; and in most cases can be handled without smoke or protection of any kind. I can fill an order by return mail for 200 Queens. Safe arrival and perfect condition guaranteed; when otherwise, another Queen will be sent by return mail.

Prices.—One Queen, \$1.00; three Queens, \$2.75; six Queens, \$5.50; twelve Queens, \$9. All my Queens are mailed in self-introducing cages, and directions for safe introduction with each Queen.

Testimonials Just Received.

UNION, Maine, Aug. 17, 1895.
MR. ALLEY:—I inclose \$1 for a Queen like that one sent in 1894. She was a good one.
W. CARROLL.

OLYMPIA, Wash., Aug. 16, 1895.
MR. ALLEY:—The Queen you sent me last season is the best one in my apiary. Find \$1 for another.
H. GALLOWAY.

WOODBINE, Iowa, Aug., 1895.
MR. ALLEY:—I bought a Queen of you last year. The bees are very handsome, good workers, and have shown no signs of swarming. Send me one like her. B. L. COPELAND.

Don't fail to order one of these Queens by return mail. You can test them before July, 1896. This is the best time in the year to introduce Queens. Address,

HENRY ALLEY,
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CHICAGO. Hours 9 to 4.
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Queens and Nuclei!

Untested Italian Queens, by return mail, 75c;
Tested, \$1.00; Select Tested, \$1.50.
Nuclei, by express—per Frame, 75c.
Address, **C. E. MEAD,**
87 Artesian Ave., Station D, CHICAGO, ILL.
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Grinds more grain to any degree of fineness than any other mill. Grinds ear-corn, oats, etc., fine enough for any purpose. Warranted not to choke. We warrant the Peerless to be THE BEST AND CHEAPEST MILL ON EARTH. Write us at once for prices and agency. There is money in this mill. Made only by the **JOLIET STROWBRIDGE CO., JOLIET, ILL.** Jobbers and Manufacturers of Farm Machinery, Carriages, Wagons, Windmills, Bicycles, Harness, etc. Prices lowest. Quality best.

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MUTH'S HONEY EXTRACTOR PERFECTION Cold-Blast Smokers, Square Glass Honey Jars, Etc.

For Circulars, apply to CHAS. F. MUTH & SON, Cor. Freeman & Central Aves., Cincinnati, O. Send 10c for Practical Hints to Bee-Keepers.

PLAYING HOG.

Our agents have been accused of gobbling up the best trade in a very hogish way. Recently they imitated the animal in a still more realistic manner. One 176 lb. agent declared he could crawl through any wire fence where stays are not nearer than 2-3 ft. This statement published in our monthly paper has set others going and now bets are made and won by Page men in all parts of the country, much to the annoyance of owners of wide-mouthed fences.

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.
Mention the American Bee Journal.

Convention Notices.

WEST VIRGINIA.—The Braxton County Bee Keepers' Association will meet at Sutton, W. Va., Sept. 21, 1895. Everybody invited to be present.
JACOB FRAME, Sec.
Sutton, W. Va.

KANSAS.—There will be a meeting of the Southeastern Kansas Bee-Keepers' Association in Fort Scott, Kans., on Sept. 19, 1895. All are cordially invited to come and have a good time. There will be a full program.
Bronson, Kans. J. C. BALCH, Sec.

MINNESOTA.—The next meeting of the Southern Minnesota Bee-Keepers' Association will be held at Winona, Oct. 15 and 16, 1895. All members are urgently requested to attend. All bee-keepers and others interested are cordially invited. E. C. CORNWELL, Sec.
Winona, Minn.

NEBRASKA.—The Nebraska State Bee-Keepers' Association will be held in the bee and honey hall at the State Fair Grounds in Omaha, each evening of Sept. 17, 18 and 19, 1895. A specially fine program has been prepared, and all bee-keepers are urged to be present.
L. D. STILSON, Sec.
York, Nebr.

WISCONSIN.—The Southwestern Wisconsin Bee-Keepers' Association will hold its next meeting at Platteville, Wis., Oct. 8 and 9, 1895. "Come, every one." Don't get discouraged if we haven't got a crop of honey. We will have a good time at Platteville, just the same. Bring your wives and daughters with you. Many interesting subjects will be discussed.
M. M. RICE, Sec.
Boscobel, Wis.

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If you do not sell the honey? That's what we are here for. Get our high prices before selling.

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Have been carefully bred for producing comb honey for the past 18 years, and by a special method for producing large, long-lived, prolific Queens. Can furnish either 3 or 5 Banded stock, bred in separate yards. 3-Banded bred from my own or Imported Mother. No foul brood or paralysis. Warranted Queens, purely mated, 60 cts.; Tested, \$1.00; Selected Breeders, \$2.50. Discount on quantities.

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Wholesale and Retail.

Quality always the best. Price always lowest. Working Wax into Foundation by the lb. a Specialty. I can make it an object for you in any quantity, but offer special inducements on straight 25 or 50 lb. lots. Or for making large lot of Wax into Foundation. I am furnishing large dealers, and can also please you. Beeswax taken at all times. Write for Samples and Prices, to

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Reference—Augusta Bank. 16Atf
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Free Silver For You

Is a good thing but here's something better
Until further notice I will furnish COMB FOUNDATION as follows:

10 lbs. Heavy or Medium Brood Fdn.	\$3.50
10 lbs. Light "	3.60
10 lbs. Thin Surplus Foundation....	4.00
10 lbs. Extra-Thin Surplus Fdn.....	4.50

No orders will be accepted at these prices from persons living east of New York State.

For BEESWAX—fair quality, delivered here, 27c. cash; 29c. in trade.

W. J. Finch, Jr., Springfield, Ill
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Woodcliff Queens.

I will send a Guaranteed 5-Banded Yellow Queen, bred from a Breeder selected from 1000 Queens (some producing over 400 lbs. of honey to the colony); or a 3-Banded Italian Leather-Colored Queen direct from a Breeder imported from Italy. Oct. '94—at 75c., and a special low price for a quantity.

My secret is to sell an extra-large amount, which enables me to sell at low prices. Will run this spring 350 Nuclei—have 1 home and 4 out apiaries. No Queens superior to my Strain.

Send for Descriptive Catalogue and Testimonials, to
WM. A. SELSER, WYNCOTE, PA.

Abbott's Space.

In response to many inquiries I will renew my special offer for a short time only:—

Five "St. Joe" Hives, 1½-Story, cut ready to nail—no sections—for \$3.50 to any one who has never had a crate of these Hives.

I sell Dadant's Foundation at their prices; pay CASH for BEESWAX, and keep a stock of

Shipping-Crates and Other Bee-Supplies.

SPECIAL PRICES the rest of the season. Write and say what you want.

EMERSON T. ABBOTT,
ST. JOSEPH, MO.

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A THOUSAND TONS OF COMB HONEY

Will be made on the Foundation sold by us this year. That is why

WE NEED BEESWAX.

Now is the time to order your Foundation for 1896. Although the

PRICES ARE REDUCED

on both Beeswax and Foundation for the balance of the season, we want all

The Beeswax You Have to Offer.

Send for Catalogue of Bee-Supplies, Langstroth Revised, etc.

CHAS. DADANT & SON,
Mention the American Bee Journal. HAMILTON, Hancock Co., ILL.

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Now ready by return mail, reared in full colonies from the best honey-gathering strains in America, at the following very low prices:

Tested	per 1/4 dozen.....each	\$1.50
"	per 1/2 dozen.....each	8.00
Warranted purely-mated	per 1/4 dozen.....each	.75
"	per 1/2 dozen.....each	4.25
"	per dozen.....each	8.00

If you want Queens for business, get my old reliable strain. 40-p. descriptive Catalog Free. W. W. CARY, Colrain, Mass.

27Atf Mention the American Bee Journal.

3-Frame Nucleus and Italian Queen

—\$2.50.—

Untested Queens, 75c.; Six for \$3.50. Discount on Quantities.

FULL-LINE-OF-SUPPLIES.

I. J. STRINGHAM,
105 Park Place. NEW YORK, N. Y.
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PATENT WIRED COMB FOUNDATION

Has No Sag in Wood-Frames

Thin Flat-Bottom Foundation

Has No Fishbone in the Surplus Honey.

Being the cleanest is usually worked the quickest of any Foundation made

J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook Montgomery Co., N. Y.
Mention the American Bee Journal.

Select Tested Italian Queens

Friends, I will have 200 Select Tested Queens for sale Sept. 1, at \$1.00 each or \$10.00 per dozen. Untested, 50 cents each, or \$5.00 per dozen. Tested Queens 75 cents each, or \$6.00 per dozen, either Golden Italians or Imported stock at same price. Safe arrival and satisfaction guaranteed. Address,

F. A. CROWELL,
31Atf GRANGER, MINN.

IT TELLS ITS OWN STORY!

We are receiving hundreds of Testimonials speaking of the High Quality of the goods that are turned out by us; but we have space for and reproduce on the advertising pages of the various bee-periodicals only a very few. In addition to the one already given recently, here is one that tells its own story:

THE A. I. ROOT CO.:—I must compliment you on the degree of perfection to which you have attained in the manufacture of bee-supplies. I have been, as you may know, in the bee-business for about 20 years; and during that time I have obtained my supplies from many manufacturers, north and south, but have not found any that would compare favorably with the goods made and sold by you, either in quality of material used or in workmanship, so I have settled back permanently on the A. I. Root Co. as my base of supplies.

Eddy, N. Mex.

J. SINGLETON.

We are making preparations to nearly double our capacity for turning out goods; and do you wonder at it after reading such letters as the above? Send to the A. I. Root Co. for large, illustrated catalog.

N. B.—SHIPPING PACKAGES for both comb and extracted honey on hand ready for prompt shipment.

Mention the American Bee Journal. The A. I. ROOT CO., Medina, O.